

REMARKS/ARGUMENTS

This reply is in response to the Office Action dated May 16, 2007. Claims 1-124 are pending in the application and claims 1-22 stand rejected. Claims 23-124 have been withdrawn from consideration by the Examiner for being directed to a non-elected invention. Entry of the foregoing amendments and reconsideration of the claims is respectfully requested.

Specification

The Abstract of the disclosure has been objected to "because it is not limited to a single paragraph." Applicant has amended the Abstract as shown above to comply with the requirements of MPEP § 608.01(b)(C). Withdrawal of the objection is respectfully requested.

Drawings

The Drawings have been objected to "as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference numeral 2 of Figure 1." Applicant has amended the specification at page 20, lines 1-8 to add the reference character (numeral 2 of Figure 1) in the description in compliance with 37 CFR 1.121(b). As such, no new matter has been added. Withdrawal of the objection is respectfully requested.

Claim Rejections - 35 U.S.C. §112

Claims 1-22 stand rejected under 35 U.S.C. § 112, second paragraph. Applicant has amended base claims 1 and 17, obviating the rejection. Such proposed amendment is not in response to the cited prior art nor directed to the patentability of the invention. Further, the proposed amendment is not intended to narrow the claims nor otherwise limit the scope of equivalents thereof. Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. §§ 102(b) and 103(a)

Claims 1-22 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over McKinney et al. (U.S. Patent No. 4,988,781; hereafter "McKinney"). The Examiner states, "In view of the similarity in preparation procedure and properties... , there is a plausible basis for inferring that the undisclosed properties of the

instantly claimed polymer are intrinsic features of the modified copolymer described in McKinney at al."

Applicant has amended base claims 1 and 17 to include the limitations of claims 6 and 19, respectively, obviating the rejection. McKinney does not teach, show, or suggest a polymer comprising units derived from ethylene and units derived from a copolymerizable ethylenically unsaturated ester, as required in base claims 1 and 17, as amended, as well as those dependent therefrom. Instead, McKinney states:

High molecular weight, normally solid interpolymers of ethylene and unsaturated carboxylic acids, such as acrylic acid and methacrylic acid, are well known. This present disclosure pertains to such interpolymers when made in a continuous manner under steady state conditions in well-stirred reactors at high pressure and elevated temperature using a free-radical type initiator whereby random, homogeneous interpolymers are made which are substantially of uniform composition, in contradistinction to polymers made under non-steady state conditions or in nonstirred tubular reactors or in batch reactions or in non-telomerized reactions, and in contradistinction to block copolymers or graft copolymers. In particular, the present disclosure pertains especially to high molecular weight random interpolymers of ethylene and unsaturated carboxylic acids with improved extrusion stability.

See, McKinney at col. 1, ll. 18-34.

Accordingly, the polymer of McKinney is not "similarly prepared" as the instantly claimed polymer contrary to the Examiner's assertion. In fact, McKinney discourages and teaches away from non-stirred tubular reactors. Id.

Moreover, McKinney makes no mention of polymer density nor the number of C1 to C5 short chain branches nor the rheological relaxation time, as required in every claim. The rheological relaxation time is indicative of the number of short chain branches. As stated in the specification,

The ethylenically unsaturated ester may be vinyl acetate, methyl acrylate, butyl acrylate and ethyl acrylate or a combination. The transfer agent used in the production of the polymer of the invention can incorporate into the chain and this assists in creating the short chain branches of the polymer. Preferably the transfer agent is propylene, although higher olefins such as iso-butylene or butene-1 may be used. NMR techniques struggle to differentiate branches having six or more carbon atoms and these are referred to collectively as Long Chain Branches

(LCB). The presence of LCB in whatever amount or structure is reflected in the relaxation time.

See, specification at page 15, line 28 through page 16, line 6. In other words, the number of short chain branching is important to achieve the claimed combination of physical properties. As noted above, McKinney provides no amount or guidelines as to how much or how few short chain branching is needed.

There is no reasonable basis or "plausible basis for inferring that the undisclosed properties of the instantly claimed polymer are intrinsic features of the modified copolymer described in McKinney et al." Therefore, the Examiner has failed to establish a *prima facie* case of obviousness, and the Examiner has improperly shifted the burden to prove otherwise on the Applicant.

Nonetheless, Applicant has shown an unobvious difference to distinguish the claims from the disclosure of McKinney for reasons discussed above. Accordingly, withdrawal of the rejection and allowance of the claims is respectfully requested.

Claims 1-17 and 19-22 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Strauss (U.S. Patent No. 3,029,230; hereafter "Strauss"). The Examiner states the same reasons for rejection as noted above with regard to McKinney.

Applicants traverse this rejection because Strauss does not teach, show, or suggest the claimed invention. Strauss is no more closely related to the claimed invention than McKinney. Strauss discloses copolymers of ethylene and vinyl monomers, not inter-polymers of ethylene. Contrary to the Examiner's assertion, Strauss discloses copolymers of ethylene and vinyl monomers having 0.5 to 3 mol percent vinyl ester. This does not equate to a polymer comprising units derived from ethylene with 1 to 3.5 mol % (or up to 3.5 mol%) units derived from a copolymerizable ethylenically unsaturated ester, as required in the claims. And like McKinney, Strauss is silent with regard to chain branching and rheological relaxation time, and certainly makes no mention of the number of C1 to C5 short chain branches, as required in every claim. As stated above, the rheological relaxation time is largely dependent on the number of C1 to C5 short chain branches. For at least these reasons, withdrawal of the rejection and allowance of the claims is respectfully requested.

Appl. No. 10/796,831
Atty. Docket No. 2003M082
Amdmt. dated Sept. 10, 2007
Reply to OA of May 16, 2007

Secondary References

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the Office Action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

Conclusion

Having demonstrated that the cited references fail to disclose or suggest the invention as claimed, and all other formal issues having now been fully addressed, this application is believed to be in condition for allowance. Accordingly, Applicants request early and favorable reconsideration in the form of a Notice of Allowance.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated, since this should expedite the prosecution of the application for all concerned.

If necessary to affect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to affect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket # 2003M082).

Respectfully submitted,

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